

# DSD – the realities

KEITH HOWARD RETURNS TO THE SUBJECT OF THE INCREASINGLY POPULAR DSD FORMAT, ORIGINALLY AT THE HEART OF SACD, BUT NOW ALSO AVAILABLE AS A DOWNLOAD MEDIUM. HAVE WE BEEN GETTING IT WRONG ALL THIS TIME, HE ASKS

**All these years – by which I mean two decades – since the audio industry’s dysfunctional SACD vs DVD-A showdown (which had everything to do with corporate power and coffers, little to do with the interests of audiophiles) you might reasonably suppose that when, in the rather less fraught atmosphere of today, DSD files are characterised by measurement you could believe the results that you see. It’s high time, after all. But also, alas, it’s wishful thinking. People still haven’t learnt.**

Regular readers may recall that I wrote about DSD downloads in the vol 11, no 4 issue back in autumn 2017. As part of that piece I showed, perhaps for the first time (I hadn’t seen it before, nor have I since), full spectral analyses of equivalent DSD64, DSD128 and DSD256 music files, released for free assessment by 2L Records. If I didn’t thank 2L effusively enough at the time, I do belatedly now. Nobody else, to my knowledge, offers a selection of download files, gratis, in such a wide range of different formats for potential customers to decide which one to buy. It’s a thoroughly enlightened project which, as an aside, provides rare insight into DSD and equivalent files of the same source material for folks like me. More power to Morten Lindberg’s elbow for facilitating this – he’s a star.

What stimulated me to revisit this subject was recently watching a YouTube video via [audiosciencereview.com](http://audiosciencereview.com), made by the website’s proprietor Amir Majidimehr. I met Amir, very briefly, in 2008 when he was the keynote speaker at the last non-games Audio Engineering Society UK Conference in Cambridge, which that year I chaired. He had recently been corporate vice president of the Consumer Media Technology Group within the Mobile and Embedded Devices Division at Microsoft, and was just the sort of engaging, thought-provoking, energetic speaker who provides welcome contrast in an otherwise rather dry academic conference setting. He graced the occasion.

All that he’s been up to since I couldn’t say, but his [audiosciencereview.com](http://audiosciencereview.com) does what it says in its domain name. It includes objective (measurement) reviews of all sorts of equipment – it’s an impressive resource – and also has links to some YouTube videos. In one of these, Amir takes aim at DSD downloads, specifically Octave Records’ *Out Of Thin Air* by Don Grusin, although his criticism is general rather than specific [1]. It quickly becomes clear as the video runs that he is no fan of DSD.

Unfortunately, to make his point he turns to MusicScope to show a spectral analysis of the DSD64 version of the Grusin download, which looks like Figure 1 (retrieved from the video).

Excuse the crummy graphic, that’s down to MusicScope. If you’re not familiar with this software, it’s a Windows/macOS application, developed and originally sold by German company XiVero GmbH, which performs a variety of measurements on audio files it’s pointed at. Not just PCM files, importantly here, but DSD files too. No longer for sale, it is now available for free download – search ‘MusicScope free download’ and you’ll soon find it.

## Caution

Why Amir should turn to MusicScope in this instance is easy to understand. In the video he uses Adobe Audition to show the spectrum of PCM files, but Audition is not compatible with DSD. Few audio editors are because DSD cannot be edited without conversion to PCM first – and there aren’t many spectrum analysis programs that support DSD files either.

Amir’s apparent dislike of DSD centres, as you might anticipate, on the large amount of quantisation noise that is noise-shaped to ultrasonic frequencies as part of the 1-bit recording process. But unfortunately he clearly believes that the spectrum calculated and displayed by MusicScope shows the frequency content of the source file itself. At one point he says: ‘I think all SACD players had a low-pass filter ... where

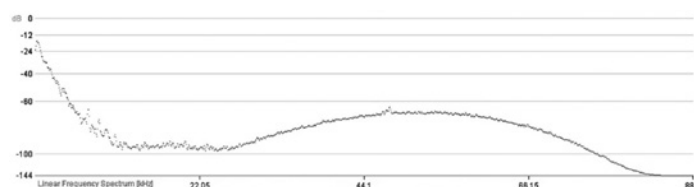


Figure 1. MusicScope spectral analysis of the Don Grusin file from the Amir Majidimehr video